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ABSTRACT

The major tenets of a pedagogy of place are that nature teaches; understanding place is indispensable to community; where and how a student learns is as vital as what a student learns; and respect is integral to learning. Environmental literacy is the capacity to perceive and interpret the relative health of environmental systems and to take appropriate action to maintain, restore, or improve the health of those systems. This kind of environmentally literate "grounding" begins close to home, where the home, community, and school can encourage and provide connections between the student and the land. Only a pedagogy of place can elicit this place value among future generations. A pedagogy of place enables us to see how ecological principles such as climate, symbiosis, succession, niche, and community apply to humans and school. A pedagogy of place is committed to civic responsibility in that students learn to balance the rights of individuals and the ecological rights of place within the larger civic order. One goal of a pedagogy of place is to develop the skills and enthusiasm for lifelong learning. Tools for implementing a pedagogy of place include cooperative skills, encouragement, and praise. Assessment should involve self-evaluation, presentations and projects, a portfolio conference, and a community evening highlighting learning accomplishments. The sustainability of a learning community depends upon an attitude of mutual trust and a willingness to suspend judgement while different ideas mingle freely. (TD)

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ED 461 461

COOPERATIVE ECOLOGY & PLACE

Development of a Pedagogy of Place Curriculum

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by James Lewicki

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RC 023309

Summer, 1997

Dear Reader,

In twenty years as a teacher, camp director, and program developer, building learning communities has been the center of my efforts.

Several years ago, the role of ecology in education resulted in my book, Cooperative Ecology: Building Learning Communities. I discussed understanding the relationship between learning and the ecological principles of adaptation, succession, niche, symbiosis, biome, and community. Recently, a new partner with ecology has entered my educational work—the value of place.

This booklet brings together learning communities, ecological principles, and place to assist your development of a Pedagogy of Place curriculum. Each page describes pathways for strengthening school and community in your landscape of home.

Currently, I'm fortunate to have a unique vantage point in this ongoing work, as the project coordinator of the Kickapoo River Institute, Wisconsin's first rural charter high school, an innovative bio-regional project dedicated to an interdisciplinary Pedagogy of Place curriculum. Speaking to you, on this warm June morning, mist rising off the Westfork of the Kickapoo River, I offer these following pieces, confident they can serve as guideposts for your unique efforts at developing a Pedagogy of Place.

Sincerely,

James Lewicki

Thanks

I would like to thank my guest illustrators:
Corinna Knapp, friend and neighbor;
my children: Aurian, Hana, Cora Rose, and Jamie.
Sabrina, you'll have to draw a picture for the next booklet. And to my life-long friend and partner, Renee, thanks for all your love and support.

Table of Contents

Key Words 1

Prologue 2

Curriculum Innovation, Community and Pedagogy of Place 3

John Dewey 4

What is a Pedagogy of Place? 5
- Nature teaches 6
- Understanding place is indispensable to community 7
- Where and how a student learns is as vital as what a student learns 8
- Respect is integral to learning 8

What is Environmental Literacy? 9

Civic Responsibility 11

What are We Learning For? 12
- Applications of learning 13
- Life-long learning 14

Ecological Principles
- Biomes 15
- Adaptation 16
- Symbiosis 17
- Succession 18
- Niche 19
- Community 20

Tools
- Cooperative skills 21
- The Encourager/The Praiser 22
- Insights and qualities 23
- Assessment and moments of learning 24
- Community and consultation 25

"The significant problems we face cannot be solved at the same level of thinking we were at, when we created them."

—Albert Einstein

Key Words:

Before discussing the details important in developing a pedagogy of place, it will be helpful to clarify key words that come up, again and again.

Sustainability–from the Latin sub meaning *under* and tenere meaning *hold*. Sustainable means to uphold, to support, to maintain something in a balance.

In the words of Lester Brown,

> *"A sustainable society is one that satisfies its needs without jeopardizing the prospects of future generations."*

Therefore, sustainable development implies progress that promises opportunities in the future rather than limits.

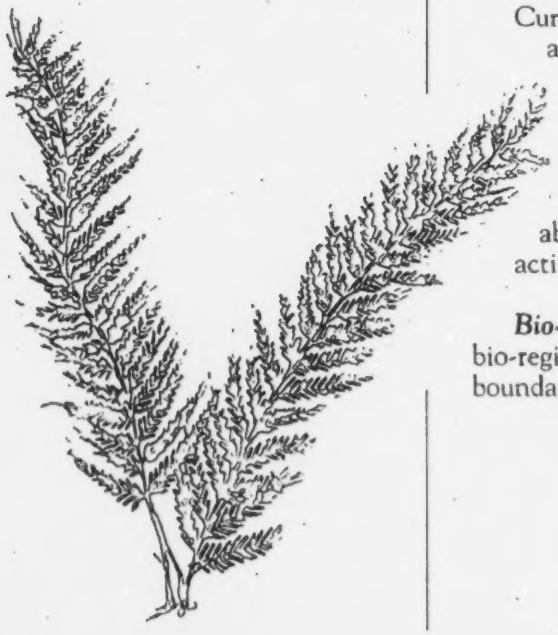
Pedagogy–the art and science of teaching.

> *Pais* comes from the Greek and means *child*,
> whereas *agein*, means *to lead*.
> Furthermore, this second root, *agein*, forms the basis of three very important Greek words;
> *actus*, a doing or moving,
> *actum*, a thing done,
> and *agene*, to do.

Pedagogy is leading a young person through the act of learning. Implicit in this act, is the original meaning of movement, getting things done, and continuous action. Pedagogy is more than theories of instruction, it is the action of teaching and learning combined.

Curriculum–has a fascinating source bringing new understanding. It comes from the Latin, *currere* and means to run, running, or in effect, a current, like the current of a river.

Curriculum is a journey, a sequencing of learning moments with a destination in mind.



Innovative–means to renew by trying new methods. The act of innovation often builds on previous knowledge, creating new arrangements of structure and activity, which, in essence is what a Pedagogy of Place is all about, a way to look innovatively at new kinds of pedagogical activity and curriculum structure.

Bio-region–originates from the Greek *BIOS* meaning life. A bio-region is the life of a defined area, often defined by natural boundaries like a watershed or grassland.

Prologue

From the one room wood frame schoolhouse to the modern brick and mortar campus, the American educational journey has undergone tremendous change in the last 100 years. Yet, within this journey, a fundamental constant remains, the indispensable linkage of school and community.

Development of a Pedagogy of Place curriculum, explores a fresh ecological world view, gaining a new perspective of our schools and communities, revealing the possibilities of dynamic learning. This idea, a Pedagogy of Place, is worthy of our time and energy. In my recent experience, developing a pedagogy of place curriculum for a rural charter high school, I've grown to appreciate its dual nature. On the one hand this pedagogy has universal applications and can fit most anywhere. This is the reason I venture forth to share ideas regarding ecology and learning communities in this booklet. What works for us may very well work for you. On the other hand, when the path of the pedagogical development begins to get worn, then you are clearly on your own. For the final stages of development, the end articulation and application of a pedagogy of place is different in each place it resonates. Its roots are local, yet its arching branches embrace the sky.

As W. Macneile Dixon, the English philosopher, proclaimed in, The Human Situation,

> *"Ideas are the most mysterious things in a mysterious world...They are beyond prediction. They appear to have a life of their own, independent of space and time, and to come and go at their own pleasure...They are living, powerful entities of some kind, and as infective as fevers. Some, like flowers, are the creatures of an hour; others are of a prodigious vitality and root themselves, like oaks, in the soil of human nature for a thousand years. Ideas, like individuals, live and die. They flourish, according to their nature, in one soil or climate, and droop in another. They are the vegetation of the mental world."*

What ecological ideas will take root through the development of a pedagogy of place to last a lifetime? Which collaborative ideas will shine during each school day like the spring wildflowers, indicative of a youthful mind, reaching bravely towards growth? Which pedagogical ideas fuel our aspirations as teachers? What strategic community building ideas drive our work? What kind of place and community are interacting with the schools, as we teach?

Developing a Pedagogy of Place is important. By developing learning communities which embrace ecological principles and local landscape, our cubicles of teaching expand outward with vibrant experiences as they are infused inward with vital learning. The successive levels of cohesiveness which can move through an American school year is a journey, revealing patterns and habits, laughter and frustration, exciting and boring moments from teacher to students, from students to teacher, and most vitally from student to student.

"For me, the most important place on the farm was the cattail marsh at its north end. To get there, you took the farm's interior road, a grass track that ran east to the edge of the maple grove and then north as far as the waterway that drained into the slough from the east. The physical distance was not quite half a mile, but so far as I was concerned it might have been halfway around the world."

—Paul Gruchow
from Grass Roots: *The Universe of Home*

"Education for sustainability must involve everyone: Education on any topic, but particularly on sustainability, should flow from school to community and back again. Educators at all levels should reach beyond school walls to involve parents, industry, communities and government in the education process."

—President's Council on Sustainable Development, 1996

Curriculum Innovation, Community, and Pedagogy of Place

Throughout the North American educational landscape, immense intellectual and emotional energies are seeking innovation, energies whose gathering pressure is in direct proportion to twenty years of percolating frustrations in local, state and national reform efforts. Though reform projects abound, pointing in the direction of innovation, these initiatives are often unrooted in the local landscape, not going beyond the four walls of the schoolhouse.

The period of the 100 year change is here, with ideas sprouting daily, taking to the wind, and a few, here and there, taking root and thriving in the local soil of a community positioned for change. Students yearn for an end to the status quo, an end to business as usual. All to often, schooling is a necessary certification on the ladder of life, where the stuff of learning, the kinesthetic flow of mind engaged for its own sake of progress, is reserved for the extra-curricular life.

The issue rests within the traditional habitat in which teachers and students, alike, operate. The structure and design features often date from before the first World War. For example, everybody born between this month and that month, please sit in these desks with these other twenty-six people for nine months. Biology learning will happen at 9:15 this year, and English learning will occur every day right after lunch.

Curriculum efforts often produce a leveling of individual initiative, a circling of the institutional pedagogical wagons, often embracing high sounding proficiencies which have more life in the lofty think-tanks which produce them, then will ever emerge in the schools which use them.

We need a community-based purpose for curriculum development. A purpose which brings academic proficiencies, landscape and community to the same table, at the same time, for the same meal—learning. Community members need to be front, center, and active in all stages of development. There are many local "professors" of place who can develop this "university" called home.

A Pedagogy of Place is more than another good idea, schools and communities ought to work this way, together, inclusively, with a commitment to the land called home. What follows can support the dedication of teachers, the interests of students, and the commitment of communities to become places to grow and live well. For, it is precisely the habitat of teaching , and the role of learning, which is addressed by a Pedagogy of Place; a curriculum which embraces change, and, in so doing, embarks on a path of no return.

John Dewey

Before moving into ideas regarding the development of a Pedagogy of Place curriculum, I would like to share a few gems of educational discourse from John Dewey. His 1916 work, Democracy and Education, discussed the aims of education.

Life-long learning:

"The aim of education is to enable individuals to continue their education...the object and reward of learning is continued capacity for growth..."

Participation:

"Furthermore, we are partakers in the process which produces the result..."

Adaptation and succession:

"The criteria for a good aim in education are three. The aim must be an outgrowth of existing conditions, and though every aim is to act with meaning, every aim is a mere tentative sketch, and in the end an aim must be flexible, it must be capable of alteration to meet circumstances..."

A good aim:

"A good aim surveys the present state of experience of pupils, and forming a tentative plan of treatment, keeps the plan constantly in view and yet modifies it as conditions develop. The aim, in short, is experimental, and hence constantly growing as it is tested in action."

Conditions of learning:

"There is nothing peculiar about educational aims. They are just like aims in a directed occupation. The educator, like the farmer, has certain things to do, certain resources with which to do, and certain obstacles with which to contend. The conditions with which the farmer deals, whether as obstacles or resources, have their own structure and operation independently of any purpose of his. Seeds sprout, rain falls, the sun shines, insects devour, blight comes, the seasons change. His aim is simply to utilize these various conditions; to make his activities and their energies work together, instead of against one another. It would be absurd if the farmer set up a purpose of farming, without any reference to these conditions of soil, climate, characteristic of plant growth, etc."

Aims as 'suggestions' to educators:

"And it is well to remind ourselves that education as such has no aims. Only persons, parents, and teachers, etc., have aims, not an abstract idea like education. And consequently their purposes are indefinitely varied, differing with different children, changing as children grow and with the growth of experience on the part of one who teaches. Even the most valid aims which can be put in words will, as words, do more harm than good unless one recognizes that they are not aims, but rather suggestions to educators as to how to observe, how to look ahead, and how to choose in liberating and directing the energies of the concrete situation in which they find themselves."

"Education is not the filling of a bucket but the lighting of a fire."

—Yeats

Education ought to allow for bonding to the natural world. E.O. Wilson believes we have an affinity for life, which he calls biophilia. In other words, nature tugs at us. Biophilia is the gravity that pulls us toward nature. We not only live on this planet, but this planet lives in us, in our minds, in our dreams, and in our genes.

—David Orr

We came with vision but not with sight. We came with visions of former places but not the sight to see where we are.

—Wendell Berry

What is a Pedagogy of Place?

Today, in 1997, we find ourselves, as students, parents, and teachers asking the same questions of education. How do we observe? What do we look ahead for? How do we choose various pathways in liberating and directing the energies of our classrooms and school communities?

Curriculum innovation seems to hold a key. But to which door? Urban? Rural? Suburban? Edge city? What works for an urban system may become unglued in a rural system. What works for teacher-directed methods falls apart under student-directed methods. Is there a pedagogy, an art of teaching, which manages to blend all systems as one? A pedagogy which does not distinguish between urban, suburban, and rural? A pedagogy which integrates school and community as co-learners in a common natural habitat.

A pedagogy of place. What is it? At the Kickapoo River Institute, the following language was developed to answer this question.

> **A pedagogy of place brings school and community together on a common pathway dedicated to stewardship and life-long learning. It is teaching by using one's landscape, family, and community surroundings as the educational foundation. Significant learning takes place outdoors and in the community. This community expands outward from local landscape and home, to regional realities, to international issues. In coming to know one's place, one comes to know what is fundamental to all places. Respect and reverence for one's immediate place, land stewardship, gives one respect and reverence for all places.**

Deceptively simple in its discourse, this concept, holds three fundamental tenets:

* nature teaches.
* understanding place is indispensable to community.
* where and how a student learns is as vital as what a student learns.
* respect is integral to learning.

This pedagogy of place, like a new compass bearing, presents fundamental challenges to the path that modern education follows. For, in school, nature is, too often, a displaced species of curriculum, place is ill-defined, often outside the window, and landscape is an endless horizon of summer break.

Nature teaches

> *"The enormous capacity of Homo Sapiens for behavioral differentiation turns many ecological principles into sociological principles."*
>
> —William R. Catton, Jr.

Cooperative Ecology is the phrase I used in my book, Cooperative Ecology: Building Learning Communities. I will use it again to attend to this Pedagogy of Place concept: Nature Teaches.

Cooperative Ecology integrates cooperative learning and ecology by asserting that ecological concepts are applied and relevant in both the natural and human ecological worlds. Water flowing along a river, seeking eddies and swirling under logs is akin to a student flowing in a learning stream, asking questions, pursuing answers, working with others and overcoming obstacles. The metaphor is deeply relevant—as is the actual ecological and learning principle—adaptation.

The strength of a learning community, whether as large as a district or as small as a classroom, can be encouraged through natural processes, human and ecological, that make up the mosaic of Earth. As a farm pond undergoes a series of successions from open water to cattails to mucky field; so does your classroom grow from divergent students to small teams to a collaborative whole; as an animal carves a niche in a food chain, so does each student build a niche in your classroom; and as a rain forest represents a vast, complex community, likewise, talented young people represent a complex potential for community. Ecological truisms impact us all, everyday, and in many ways.

All living things exist within an environment, a mutually interdependent system. Whether a rain forest ecosystem or classroom human ecosystem, each follows common principles and laws. These ecosystem processes are defined and delineated by various ecological concepts such as symbiosis, niche, community, adaptation, habitat, and succession. We can no more stand outside these ecological processes than any other species.

Nature teaches. Humans often learn from the mirror offered by nature's ways. When we learn from this treasure, the natural world changes from some elusive "outside and out there" reality, existing apart from us, to a reality which we're inextricably a key part of, as members of an active bio-sphere: earth.

WHAT THE PRAIRIE TEACHES US

"The prairie, although plain, inspires awe. It teaches us that grandeur can be wide as well as tall.

Young prairie plants put down deep roots first; only when these have been established do the plants invest much energy in growth above ground. They teach us that the work that matters doesn't always show."

—Paul Gruchow
from *Grass Roots: The Universe of Home*

"The prairie is tolerant. There are thousands of species of living things on the prairie, but few of them are natives. The prairie has welcomed strangers of every kind and has borrowed ideas from all of its neighboring communities. In doing so, it has discovered how to flourish in a harsh place. The prairie teaches us to see the virtue of ideas not our own and the possibilities that newcomers bring."

—Paul Gruchow

Understanding place is indispensable to community:

One summer, I was in Wichita, Kansas visiting my wife's family. I spent a morning at Friend's University, a Quaker institute that has pioneered and developed leaders in education for over a century. Within their library is an archive that contains texts, journals, letters, and pamphlets from the last couple hundred years.

I went there looking for the personal story of early frontier teachers, believing their experience of community would be strong. Why? Because place was very important to these one room school teachers. The community was the classroom. The demarcation between school and community was a shadow of what exists today.

Perusing this collection, I discovered a personal memoir from an early 19th century frontier teacher, Jeremiah Hubbard. For over thirty years, he taught in schools amongst the early log settlements of Indiana, Iowa, Kansas and the Native American territories. He came to know, through his students, the places he lived.

Reading his memoir, I came across the following passage, and, even though the horses tied to the post are replaced by parking lots of staff vehicles, this timeless view of our profession, speaks to me today.

> *"I have thought that the teacher's life is not like the warrior's; he, with the clamor and din of powder and ball, bloodshed and ruin, spreading devastation and sorrow in his trail, while the school teacher moves along silently as the evening breeze, often times speaking a kind word to the little boys and girls that will be as bread cast upon the waters, to be gathered up many days hence for the benefit of those that heard them. When the warrior dies his friends make a great ado and exalt him to the skies, and point to him and say, "That great man has fallen." But when the teacher goes there is nothing said as to what he has done. The warrior has all his glory in this world, the teacher, his glory in that upper and better world of glory. The teacher's work is like that little leaven that the woman took and hid in three measures of meal; it will grow and grow, silently as the grass in the valleys or the moss on the rocks."*
>
> A Teacher's Ups and Down
> by Jeremiah Hubbard
> Richmond Indiana, 1858

It was clear that Jeremiah believed in a vigorous learning community. At the end of each school year, he would write a personal essay about, and for, each student. His articulate sharing provided a wonderful snapshot, a vignette on life, and place, in his many school house communities during those pioneering years. This singular dedication to knowing his students, impressed me deeply.

Where and how a student learns is as vital as what a student learns.

The place, the process, and the content of subject matter are the triad of a learning community. Allow me to digress and share an interesting experience related to communities and classrooms.

What kind of community building is occurring today in American classrooms? This question drove me to a search in ERIC (the Educational Resource Database). What I didn't find struck me as more meaningful than what I did find! I started with the descriptor, community. There were 37,386 articles that focused on some aspect of COMMUNITY. When I added SCHOOL to COMMUNITY, then 4,893 articles showed up. Clearly, five thousand articles demonstrates that many people are researching and thinking about school community issues.

But what about community in the classroom? What's being looked at where the students reside? How about the students' view of learning? This is where the surprise was hidden! In this search, I found 80,923 articles on CLASSROOM! Not too surprising. Many people are researching what's going on in the classroom. However, when I added COMMUNITY to this search, I was given the titles to only 46 articles. I had not anticipated this at all, a mere fraction! What had happened? How could we have over eighty thousand articles on education dealing with the classroom, but fewer than fifty looking at community building in the classroom? What does this tell us about our focus? Our priorities? Our knowledge base? Isn't a classroom of twenty-six students worthy of community-building research?

In Jeremiah's day, and, until recently, in parts of America, the one room schoolhouse was the classroom. The flip side was also true, the classroom was the school.

Furthermore, in Jeremiah's day the school and community were mutually intertwined. What about community and a pedagogy of place? How do communities, schools and places interact? Can a pedagogy of place support this interaction? Can it dissolve the artificial barriers often found between school and community and place. These are questions investigated with an open mind in our particular situations. A Pedagogy of Place reflects the unique life of the local landscape and community. There is no recipe for this process, just potential ingredients. As we move forward, I hope to put on the table, a wide array of ingredients that may be of some use in your development of a Pedagogy of Place.

Respect is integral to learning

This morning I learned something new. The source of the word respect means to look back, to gaze again at something. I've always understood respect as a fundamental ground rule in my classes. Yet, with this fresh understanding, respect is more than an attitude it is also a quality of observation, reflection, and understanding. This is why it is integral to learning.

"Look at your feet. You are standing in the sky. When we think of the sky, we tend to look up, but the sky actually begins at the earth. We walk through it, yell into it, rake leaves, wash the dog, and drive cars in it. We breathe it deep within us. With every breath, we inhale millions of molecules of sky, heat them briefly, and then exhale them back into the world."

—Diane Ackerman
A Natural History of the Senses

In a living system, the product of its operation is its own organization.

—Humberto Maturna

What is Environmental Literacy?

Built upon an ecological paradigm, environmental literacy is, according to Roth, "*the capacity to perceive and interpret the relative health of environmental systems and to take appropriate action to maintain, restore, or improve the health of those systems.*" (Roth, 1993)

Roth explains that the environmentally literate student is not a young person merely able to flood a room with environmental facts and graphs, rather a person who understands the ecological science of natural systems, observes often and respects nature, maintains a deep stewardship of place, and, on occasion, can call forth thoughtful, complex action to correct environmental imbalances.

This kind of environmental literate 'grounding' begins close to home, where the home, community and school can encourage and provide connections from the student to the land. Only a pedagogy of place can elicit this 'place value'[3] among future generations.

Inherent within this pedagogy of place would be an understanding of a number of processes and concepts, which provide life-long sustenance for an ecologically literate citizenry. Below are a random mixture of these elements gathered from current writings and research. They seem to attend to three major strands of learning within ecological, thinking, and social capacities. This group can supply the 'brick and mortar' for construction of a Pedagogy of Place curriculum.

Ecology Strand:

The nature of the basic components of elemental systems. (e.g., living and non-living things, requirements for life)

Interactions of communities of plants, animals, fungi, protists and bacteria with the other components of the physical environment.

Ecosystems.

Individuals, Populations, and Communities.

Habitats, Niches, Succession, Homeostasis.

The laws of thermodynamics.

Population dynamics.

Limits of technology.

Least cost, end-use analysis.

Carrying capacity.

Biogeochemical recycling.

Biotic and abiotic limits to growth.

Transfer and energy flow through living systems.

Primary resources in developing this list:

1. *Environmental Literacy: Its Roots, Evolution and Directions in the 1990's* by Charles E. Roth, Education Development Center, Newton, MA. 1993. Available thorough ERIC: Clearinghouse for Science, Mathematics and Environmental Education, The Ohio State University, 1929 Kenny Road Columbus, OH 43210-1080.
2. *Ecological Literacy* by David Orr, State University of New York Press, Albany, 1992.
3. *Place Value*, by Paul Nachtigal/Toni Hass, Annenberg Rural Challenge, Granby, Colorado.

Thinking and Thinking about thinking strand:

Thinking in terms of systems.

Thinking in terms of time frame and scales.

Awareness of appropriate time/rate determiners for changes desired.

Understanding the process of scientific inquiry: questioning, observation, and experimentation.

Conducting basic risk analysis.

Demonstrating an ability to forecast, to think ahead, and plan.

Analyzing issues from various perspectives.

Distinguishing between number, quantity, quality, and value.

Ability to apply concepts to build personal understanding.

Social strand:

Basic components of societal systems.

Types and examples of interactions between humans and nature.

Humans as ecological variable.

Consequences of individual actions.

Understanding dynamic relationships between science, technology, and society.

Ability to sort out the implications of societal issues.

Identification with, and feelings of concern for, both society and nature.

Examining issues from local, regional, national and international points of view.

Awareness of the urban/rural system of ecological interdependence.

Being able to make decisions based on justice, stewardship, prudence, cooperation, and compassion.

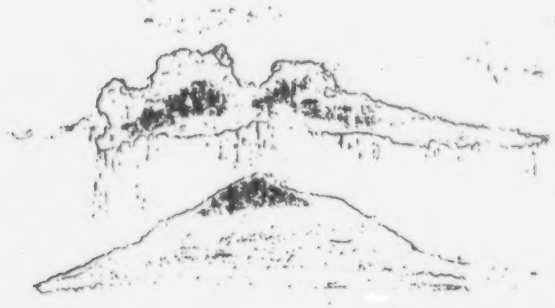
Treating public and private property with equal respect.

Sustainable agriculture and forestry.

Steady-state economics.

Appropriate scale.

Respects diversity of human perceptions, learning styles, and value systems.



"The prairie is a community. It is not just a landscape or the name of an area on a map, but a dynamic alliance of living plants, animals, birds, insects, reptiles, and microorganisms, all depending upon each other. When too few of them remain, their community loses its vitality and they perish together. The prairie teaches us that our strength is in our neighbors. The way to destroy a prairie is to cut it up into tiny pieces, spaced so that they have no communication."

—Paul Gruchow

"A society built to man's measure will not just be one that serves him but one that gives him the opportunity to serve...
the opportunity to do something for himself and others...
the fulfillment that comes with the exercise of his talents."

—John Gardner

Ever since we began burning fossil fuels, we have been supplementing human carrying capacity by using some of the solar energy that was captured by plants during the Carboniferous period and stored underground millions of years ago. Since this energy is prehistoric, it is not renewable in human terms. The use of it results in a temporary augmentation of carrying capacity. I call it phantom carrying capacity. It won't last.

This temporary extension is significant in size. More than nine-tenths of the energy used by Homo Sapiens is now derived from sources other than each year's crop of vegetation. To live sustainable with current population and per capita energy consumption, modern man would require an increase in carrying capacity equivalent to ten earths, each of whose surfaces was used to the extent we are currently overusing this one.

—William R. Catton Jr.

Civic Responsibility

A Pedagogy of Place is committed to the community vibrancy inherent in genuine democratic schools. The role of each student rests on academic and social foundations requiring an active, competent citizenry, balancing the rights of individuals and the ecological rights of place within the larger civic order. Citizenship places common interests over self-interest. This Jeffersonian vision of democracy was succinctly captured by Lewis Mumford, writing in 1938, with a clarity that echoes true today,

> *"...students will learn in detail where they live and how they live: they will be united by a common feeling for their landscape, their literature and language, their local ways, and out of their own self-respect, they will have a sympathetic understanding with other regions and different local peculiarities."*

The degree to which these students activate this growing knowledge base, addressing an ecological need (be it a hardwood management proposal or traffic flow dilemma) will, in no small part, be a measure of the curriculum's success. A student should expect high visibility and practical applications: utilizing oral abilities by interviewing a county forester, speaking to local service organizations, presenting research findings to a review committee, or making proposals to village and county boards.

Fundamentally, David Orr discusses three layers of competence we are striving toward in civic mindedness. Knowledge, Caring, and Action.

I know

A competence of academic proportions. Mastering the aforementioned characteristics of ecological literacy outlined in the sustainable development curriculum overview.

I care

A competence of internal proportions. Mastering the balance between analytic intelligence, (i.e., Knowing about the problem), social analysis, (i.e., How do I fit into this problem?) and personal experience, (i.e, What will I do?)

I do

A competence of kinesthetic proportions. Mastering the ability to get up and go. Action reflects knowledge and understanding working as one.

What are We Learning For?

This is a question to be answered each and every day in a dynamic learning community. In my work at the Kickapoo River Institute the following mission and goals guide our journey.

The mission of the Kickapoo River Institute is to uphold the ecological integrity of the Kickapoo Valley watershed bio-region by sustaining a learning community; characterized by innovative interdisciplinary teaching, local research, and civic responsiveness.

We have three goals or aims that guide this mission:

1. **Pedagogy of Place:** to activate an interdisciplinary curriculum resulting in ecologically literate and place-conscious students capable of a wide range of post-secondary options.

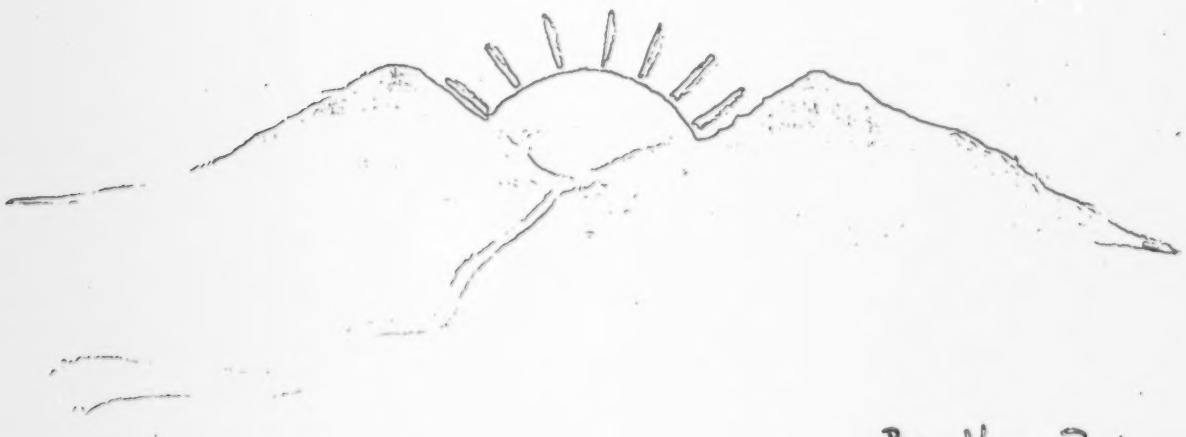
2. **Place Value:** to develop a significant learning relationship with the Kickapoo Valley landscape, demonstrating each student's understanding, skills, knowledge, and choices to 'live well in their place.'

3. **Active Citizenship:** to provide community research and service strengthening the commitment to democratic capacities of active citizenship.

The next two pages point to another reason we are learning. To be able to do things in our lives and to always be learners. Life long learning and applications of learning need to frame any curriculum work undertaken. In developing a Pedagogy of Place curriculum these qualities of learning shine through, loud and clear.

An an experiment in place-centered education, I'm going to teach a course on the local watershed: the Black River. You could teach the same kind of course using a seashore, an island, a mountain, or a desert. I want to immerse students in a natural system. Water engages all of our senses. We drink it. Some people are baptized in it. We swim in it, bathe in it, listen to the sound of it. A river is a biological thing, a geological thing, a social thing, a legal artifact defined by laws and regulations, and it has a history. A course on a river acts as a good solvent for compartmentalized knowledge.

—David Orr



By Hana R Lewicki

Belief Statements

People

"The great thing in the world is not so much where we stand, as in what direction we are moving."

—Oliver Wendell Holmes

- All individuals have equal intrinsic worth.
- All people have an innate desire to learn.
- Learning is a life-long endeavor.
- Every person has the potential to change and to bring about change.

Applications of learning

All too often moments of learning are not followed through with applied activity. New learning must flow into subsequent directed activity for deeper levels of understanding to occur. And directed activity, reciprocally, often produces a flow of new learning. As such, a large part of the student experience will embrace the following core areas.

1. **Solving Problems:** The ability to recognize and investigate problems, then formulate, propose, and implement solutions, supported by ecological literacy and scientific evidence.
2. **Communicating:** To develop the powers of observation and listening as the cornerstone of effective communication. Likewise, to master the ability of speaking and writing in clear understandable language in a variety of settings for various purposes.
3. **Working on Teams:** Experiencing the practical application of knowledge, requiring both individual and group efforts. Individuals bring unique insight and focus to the work of inquiry and problem solving. Whereas, working in groups, posing questions, sharing information, collaborating in experimental efforts, and learning from each other, often will create moments greater than any part.
4. **Using Technology:** Being able to use appropriate scientific and mathematical instruments, electronic equipment, computers and networks to access information, process ideas, and communicate results.
5. **Making Academic Connections:** Mastering the ability to recognize and apply connections of important information and ideas within and among academic learning areas. For example, understanding the function of cells depends on knowing chemistry; chemistry depends on knowing math. In effect, all disciplines are interrelated.

Belief Statements and Applications of Learning
adapted from Illinois Math and Science Academy, 1997.

Life-long learning

A frequently mentioned goal of education is to develop both the skills of and enthusiasm for life-long learning. Yet, what exactly are the characteristics of a life-long learner? Below is a working list, that will grow, as you build the interdisciplinary context of a Pedagogy of Place.

- Precisely observe, record and analyze data, ever evaluating appropriateness, reliability, and validity.
- Exhibit tenacity as a learner.
- Demonstrate effective collaboration skills, in the pursuit of questions that are pertinent, insightful, and reveal deep understanding.
- Demonstrate a recognition and utilization of dynamic systems and structures.
- Develop the intellectual habits of skepticism and openness.
- Utilize the discipline of deduction.
- Develop the power of intuition.
- Demonstrate the ability to cooperate through a shared dilemma.
- Select problem-solving processes appropriate to a problem.
- Recognize, allow, and seek alternative problem-solving strategies.
- Draw conclusions independent of authority.
- Tolerate ambiguity—and the potential for more than one "correct" answer.
- Develop mathematical relationships based upon empirical data involving multiple variables.

Belief Statements

Learning

"Just as a pile of stones is not a house, an accumulation of facts and equations is not knowledge."

—Jules Henri Poincare

- The process of education is more than the accumulation of facts.
- Meaning is constructed, not prescribed.
- Valuable learning results from both failing and succeeding.
- Aversion to risk-taking stifles innovation and creativity.
- The ability to discern and create connections is the essence of knowing.

Belief Statements

Place

"Once you have lived on the land, been a partner with its moods, secrets, and seasons, you cannot leave. The living land remembers, touching you in unguarded moments, saying, "I am here. You are part of me."

—Ben Logan, *The Land Remembers*

- Humans are part of the environment.
- Nature provides endless metaphors to build academic conceptual understanding.
- Systems learning is implicit in learning about place.
- A pedagogy of place is central to environmental literacy.
- Basic ideas such as boundary, force, state of equilibrium, threshold and carrying capacity shape the land and its biotic habitats. These same forces shape the learning habitat as well.

ECOLOGICAL PRINCIPLES

Biomes

What makes us feel at home? When a long journey is done, and we have driven through the deserts, rode a train over the mountains, or flown across the great plains, we return home with fresh eyes. And often, we see anew our biome that is home, the melodic crash of waves, color of fall trees, fresh layer of snow, or evening desert winds.

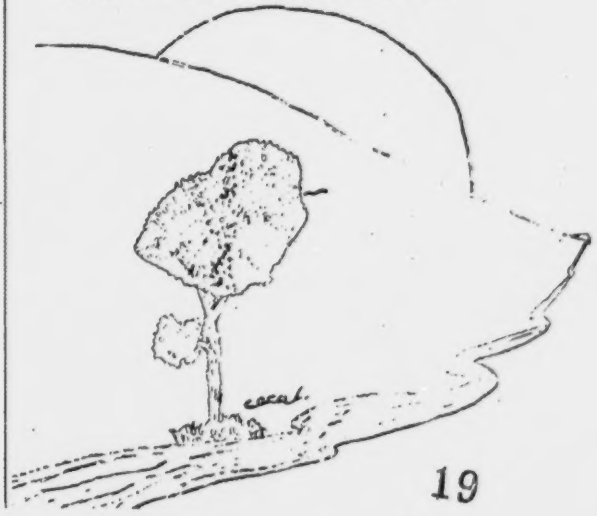
Very large climate ecosystems are called Biomes, named after the main type of vegetation found within its zone. A Biome is a macro-community of plants and animals interacting with a non-living environment, sharing energy from producers, consumers to decomposers, reflecting a unique climate as comparable to other biomes.

Whether a woodland biome, savannah, coniferous forest, grassland, or tundra the world's biomes and our thousands of school districts are each defined by their climate. The health of a school district is fundamentally determined by the climate created by the students, teachers, administration, support staff, parents, and board members. One district can be as different from another as a woodland is from a savannah.

A Pedagogy of Place curriculum has the capacity to be an organizational paradigm shift, a foundational change, where the various participants within the school district, shift their viewpoint, and commit to a new district pedagogical vision.

This vision can propel long term, systemic change. For a school system will only change in direct proportion to the energy of those learning at that given time. And curriculum driven by interdisciplinary learning and community produces many elements of learning. A pedagogy of place can create a district road maps, essential guideposts that elicit a common direction.

By establishing school and community obligations to a pedagogy of place curriculum, a level of vibrant learning will generate a wave of excitement, enthusiasm, and educational energy. To come to appreciate these qualities is part of the wisdom of a healthy biome or a well-run school district.



Adaptation

In the broad and complex story of life, plant and animals end up with new and ultimately successful ways of solving problems brought about by the shifting conditions where they live. Solving problems by creating new ways of meeting change is the essence of adaptation.

Habitats are rich with the story of adaptation because plants and animals strive at NEW WAYS of meeting changes in the flow of energy and the cycle of life's building materials. And even though some of these natural changes may take place over a long period of time, we can study these adaptations, applying their distinct plant or animal story in our social milieu—where changes are more of a human time scale.

Adaptation is THE integrating GIFT of education. Throughout the world, the common denominator of successful education is how each student learns to adapt effectively, correctly, and humanely to their changing life circumstances. Three goals of adaptation for a Pedagogy of Place curriculum could be:

- To perceive accurately the shifting conditions of life.
- To be able to find successful, humane ways to solve problems.
- To respond accordingly with compassion and understanding.

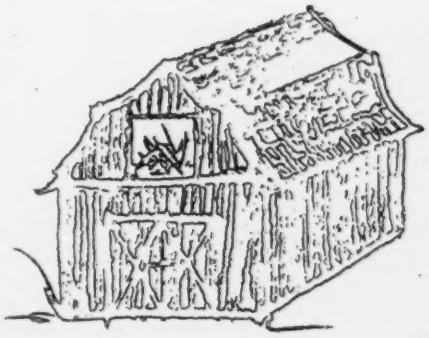
Adaptation lessons are important—and many are opportunistic. Look for adaptation experiences to provide students some conceptual hooks to frame a lasting understanding.

Begin with the physical and the obvious. How does the room adapt to us? What are the shifting desk arrangements? Is the teacher's desk a barrier to communication? Often, the physical characteristics are the body of the learning community.

Point out the social adaptations. Courtesy implies an effort to be fair, an effort to care, and an effort to be there for someone. Courtesy is more than being polite, it is a myriad of actions that are inclusive rather than selective, accepting rather than defining. I've always enjoyed an anonymous quote,

> *"Letting people in is largely a matter of not expending the energy to keep them out."*

Listen. What kind of language is apparent in your classroom? "Try this out"... "If you do, then I'll"... "Wasn't that neat?"... "I never expected that?"... "Wow!"... "What if?"... "Will you?"... "Thanks for your help"... "I see!" Take time to focus on conversations. Are they family friendly, more like a living room, or worse, more like a back alley?



"Education for sustainability is practical. It helps students apply what they learn to their daily lives. Part of sustainability education is learning that citizens do have the power to shape their lives and their communities in light of their vision of a healthy and prosperous future."

—President's Council on Sustainable Development, 1996

"No bird soars too high if he soars with his own wings."

—William Blake

"I think the end is implicit in the beginning. It must be. If that isn't there in the beginning, you don't know what you're working toward. You should have a sense of a story's shape and form and its destination, all of which is like a flower inside a seed."

—Eudora Welty

Symbiosis

Symbiosis is the very close relationship between two organisms of different species that live together and mutually gain from their interaction. Many birds feed on insects which irritate certain mammals. For example, in Africa, oxpeckers eat insects found on antelopes. Numerous examples exist of smaller fish that feed on parasites from the bodies of larger fish.

Symbiosis can be created and nurtured in our school communities. In developing a Pedagogy of Place curriculum, symbiosis is a constant bridge from school to community and back again. As previously mentioned, generations of older Americans experienced symbiotic communities called one room schools. The spirit of these schools often reflected the close connection to place, in effect, an active integration of school and community.

Symbiosis is evident in the rich historical traditions of mentoring and apprenticeships. The extended family, small business, and now corporate worlds continue to prove this worth of symbiotic action. Mentoring and apprenticing are the strongest, sustainable means of passing along and developing knowledge.

And finally, it's refreshing to see how symbiosis, as an ecological concept, can refute a destructive cultural trait we've developed toward unbridled competition. Yes, competition does exist in nature, but let's provide a realistic context. It is a rare event in terms of destroying another species. It's one thing to compete as a tree in a forest for the sunlight, it's quite another to run down another species and gobble it up. We seem to focus on these extreme examples to justify our "survival of the fittest" view of competition as a "natural" metaphor for human interaction.

The real metaphor of life, the dominant context, is how nature thrives because of mutual reciprocity: the system of sustainable interrelationships resulting in thousands of habitats. From an oasis marsh to a micro-community of alpine wildflowers, life exists because of intensive collaboration. Therefore, it isn't naive to conjecture that our schools will thrive whenever they embrace and utilize this reciprocity as well.

Succession

Life is animated. A mosaic of growth carried on streams of movement and action. Natural succession is when a series of plants and animals, which make up a community, replace each other over a period of time. Each habitat undergoes a sequential process of succession, until a climax community is attained. This climax community is the point where some dominant plant and/or animal species remains essentially in place, until an external force changes some critical community condition. The mixed hardwood forest, blanketing my ridge, exemplifies this process of succession.

In the field of education, a student's interactions, attentiveness, initiatives, work, and social habits are undergoing a constant mixture of adjustment and integration as well. The student, like the forest, is undergoing a process of succession. And this sail of succession is filled by the winds of two complementary processes, constantly at work in schools, the dual processes of differentiation and integration, literally the taking apart and putting back together at a more complex level.

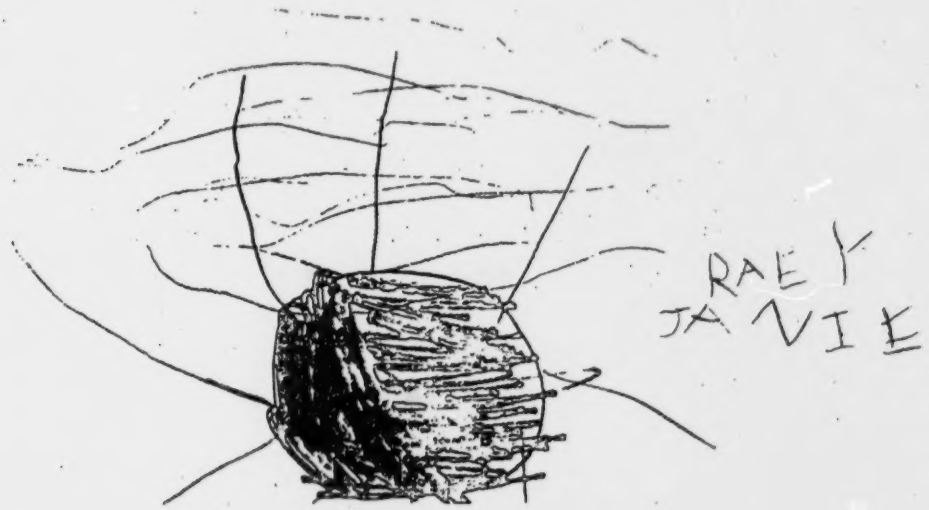
As Mihayl Chetzmehale, a noted University of Chicago sociologist, explained in his book, Flow: The Psychology of Optimal Experience.

> *"It is by becoming increasingly complex that the self might be said to grow. Complexity is the result of two broad psychological processes: differentiation and integration. Differentiation implies a movement toward uniqueness, toward separating oneself from others. Integration refers to its opposite: a union with other people, with ideas and entities beyond the self. A complex self is one that succeeds in combining these opposite tendencies."*

It is these opposite tendencies which a curriculum grounded in landscape and community can combine, give a new level of understanding to complex issues.

"Experiential learning is the type of learning which has the quality of personal involvement. Consequently, it is more significant and meaningful. Through experiential learning, knowledge is gained primarily from one's own actions, practices, and perceptions. In other words, learning is acquired through having an experience and talking about that experience."

—Joe Wittmer



Nature...becomes (to man)
the measure of his attainments.
So much of nature as he is
ignorant of, so much of his own
mind does he not yet possess.
And, in fine, the ancient precept
'know thyself'
and the modern precept,
'study nature'
became at last one maxim.

—Emerson

Niche

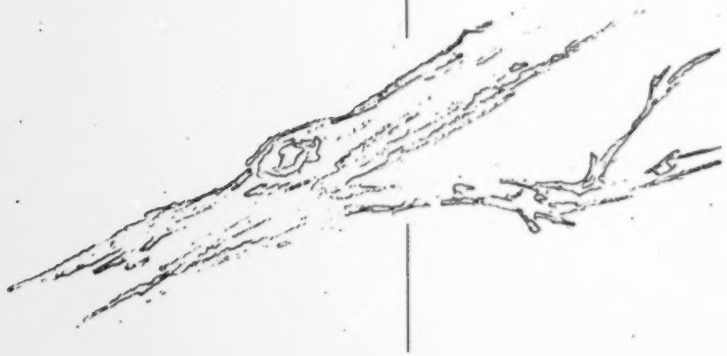
Each and every student has gifts that yearn to be used, acknowledged, and put forth, thereby, contributing to a cohesive classroom. Within ecology, a niche is the particular role an individual species has in its Biome/Habitat. Each niche is determined by how a species functions within the food cycle and its adaptation to the general habitat. For example, phytoplankton can be counted by the billions. This assures an abundant source of photosynthetic energy to small aquatic species. And these smaller aquatic species assure a food supply for our favorite fish.

A species niche is often determined by access to resources and further defined by observing how one niche relates to another niche. The defining rule of a niche is that only one species can occupy it. Only one cook in this natural kitchen. All species will compete with other closely related species for living space and resources. And though it often appears more than one species can occupy the same niche, only one species will end up occupying that niche.

Looking closer, it is evident that they overlap. In the Savannah Biome, I may observe an elephant, water buffalo and antelope all feeding in a tall grass meadow, in fact, eating the same species of grass. Yet, upon closer observation, I notice how they're feeding on different parts of the grass. Elephants feed on the tall grass, water buffalo eat the young shoots, and antelope graze on the short grass that remains.

Human interactions, like a niche in nature, fall into patterns. We label these behavioral patterns—ROLES. In social ecology, it's often the case that people have certain roles in certain habitats. Therefore, it's imperative to be aware of the roles (niches) that develop in school, as you build a learning community.

A pedagogy of place creates many learning activities which occur in the community, thereby, provide a social fabric for each student. This fabric is a common bond of purposefulness and empowerment, where every student is important because he or she is useful and needed. Each student wants to influence, impact, and change the immediate environment around them. They want to USE their talents and abilities, and in so doing, they will have a story worthy to tell.



Community

The purpose of community, the society of learners in a school, is to serve and support others. As we support community, individuals benefit. Remember those mere 46 articles on community and classroom gleaned from thousands in the ERIC database? A Pedagogy of Place will start increasing that number.

An ecological community is the group of plants and animals that collectively adapts to their habitat, a certain specified area. A community may be the micro-life beneath a rock, several square meters along an active spring, a wildflower meadow across several acres, a large Kansas Flint Hills prairie, or a regional Biome such as the Woodland Upper Great Lakes.

Community is life. And whether large or small, the contributions of each community member define a broader community purpose and build a lasting bond to the community and the landscape therein. This is the essence of a Pedagogy of Place.

We can lead young people into the experience of community. Every student should be able to apply their skills and talents in a community that depends upon them! Teaching without paying attention to community-building is like sailing without a sail. Teaching without any sense of community is being stuck in the doldrums. When students are positively engaged in school, they perceive school as a vital community; however, when students remain detached or uninvolved, the risk of drifting along rudderless is accentuated. To feel a vibrant community of students is akin to feeling the brisk wind upon one's face as the sailboat surges forward under the power of a fresh gust.

Life is one great tapestry of influences, we are always influencing our environment and it is influencing us, our world and our people.

—Catherine Keller

"And this our life...
Finds tongues in tress,
books in running brooks,
sermons in stones,
and good in everything.

—William Shakespeare

TOOLS

Cooperative skills

The most common educational word tossed about today seems to be cooperative. What skills make up the term cooperative. What does it mean to be cooperative? Here are common social behaviors evident in cooperative groups. Notice the scope of behaviors possible in a cooperative venture. A Pedagogy of Place depends heavily upon these cooperative skills in its place-driven curriculum.

Interacting Skills

* offering help to a classmate
* giving and accepting compliments
* suggesting an activity
* apologizing
* introducing yourself
* playing a game
* sharing a limited resource
* listening to those with differences
* saying Thank You
* being empathetic
* expressing feelings
* contributing to discussions
* asking relevant questions
* accepting consequences
* dealing constructively with losing, embarrassment, being left out.
* accepting no or other limits
* demonstrating a sense of humor
* having energy to share with others
* follow through on commitments
* encouraging others
* praising others
* placing the group ahead of individual wants
* being fair
* reflecting the mood of the group
* being a leader
* being a Summarizer
* being happy, an 'up' person

The Encourager

Encouragement is a critical element of setting positive climate. We are saying, "I care", "I'm watching", and "I'm committed to your learning."

Encouragement phrases:

We need your help. I know you must have a good idea.
I like the way you put that! Do you have anything to add?
Let's hear it! Give it a try. I know you can do it.
Can you help us out? Let's keep working on this.
There are no right or wrong answers. Let's share all our ideas.
You're on a roll! That reminds me of another idea. Good try!
You look like you're bursting with ideas. Keep up the good work.
I can see the wheels turning, let's get it worked out.
We're just brainstorming here. Can you expand on that?
Do you think that would be helpful? Let's not give up.
I never thought about it that way. What's your opinion?

The Praiser

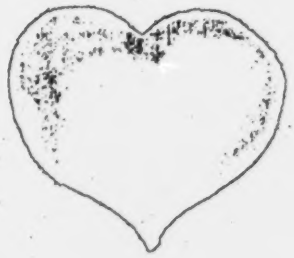
Praise comes from the Latin, *pretium*, which means worth. Praise within your class is like water to a plant: INDISPENSABLE.

Praise phrases:

Good Job. That was a good idea. Nice try.
I like the way you did that! Nice of you to show me how...
We work well together. Thanks for being brave enough to ask.
That helps us all. You explain that well. Great work!
You have a warm heart. You have a great mind.
I liked your ideas about... I'm glad you're in my group.
How creative of you. That's an excellent thought.
Awesome answer. It feels good when you really hear me.
You sure come up with great ways of putting things.
Great! Terrific! Way to go! All right...!

Compassion is also about justice-making, because injustice is the rupture of relationships—the attempt to deny interdependence. And I'm not talking just about human relationships, but our relationships wit the forests and the soil, the water and the air, the other animals and our children and the children to come, the future. All this is about interdependence.

—Matthew Fox



"Few things are harder to put up with than the annoyance of a good example."

—Mark Twain

"We must turn to nature to inform us, to serve as a reference. We must turn our thoughts to building a science of ecology that reflects a consultation of nature.

—Wes Jackson

Insights and qualities

Several insights anchor the curriculum development of a Pedagogy of Place.

- Ecology is a natural mirror reflecting the social ecology of schools.
- Fundamental ecological concepts such as adaptation, niche, succession, community, and biome, fit into a learning community.
- Caring is THE cornerstone of any significant learning relationship.
- Community building is a dynamic goal, always in process. A community constantly renews itself through the ups and downs, the cycles, the changes inherent in the journey.
- Applied leadership development, especially from the student's point of view, is essential to this community building.
- Fun & Playfulness are accurate barometers of genuine learning.
- Listening and observation are the cornerstones of teaching.

And from the student's point of view, these following qualities define an authentic learning experience. The learning...

...is fun.

...instills a sense of belonging.

...provides an opportunity for freedom to be exercised.

...provides for the wise use of power.

...empowers students to create, select, discuss, decide, implement, and evaluate their work.

...provides for the experience of community caring & compassion through acts of praise and encouragement.

...creates a momentum that influences school climate.

Assessment and moments of learning

There is a hidden fourth meaning of accountability which a Pedagogy of Place embraces in a comprehensive and direct manner. The origin of the word account is from the Latin, *computare*, which means to see. Think about this. Accountability means to see. There are fascinating implications to this thought. When a student is accountable to learning, they can see...

see concepts,

see designs,

see relationships,

see the emerging landscape of home in a new light of understanding.

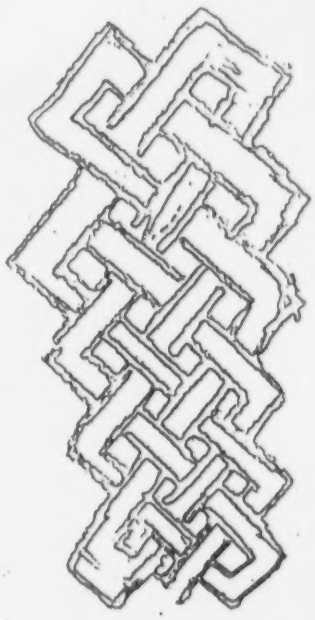
For students to experience this accountability they must be empowered by their work. Students value choice and the place called home; be it a desert, coast, forest, or river valley. In my recent work at the Kickapoo River Institute, we have designed into the school calendar a time for assessment. Operating on ten week sessions, every tenth week is reserved for a collection of assessment procedures.

1. A self-evaluation using the life-long learning and application of learning skills as touchstones of evaluation.
2. A review of accomplishments in mastering a comprehensive matrix of academic proficiencies.
3. An self-assessment of the learning community.
4. Student demonstrations, presentations, and projects.
5. A portfolio conference and learning plan meeting with parents.
6. A community evening highlighting learning for the last nine weeks.

Zorba came upon an old man planting an apricot seedling and asked why he, an old man, was planting a new tree. "I live as though I would never die," was his reply.

"And me, I live as though I might die tomorrow," said Zorba, "which one of us is right?"

—Nikos Kazantzakis



Community and consultation

How will this learning community conduct itself during the myriad meetings about to ensue? How will this group of individuals move toward new knowledge, new experiences, new interdisciplinary work?

The answers are essential to building a structure, a framework of sustainable learning. Though the word structure implies permanence, in actuality structure in a learning community is procedure, attitude, and ritual; how the organization conducts its business.

John Kolstoe, in his book, On Consultation, explores this method for groups to both build and work from a place of trust. When there is mutual trust and all are willing to suspend judgment while different ideas mingle freely, there is consultation. The key is a vigorous and unrestrained mingling of ideas. The final result is not a compromise but often quite different from any of the original thoughts or specific contributions. In effect, a group "can create an extra measure of intelligence."

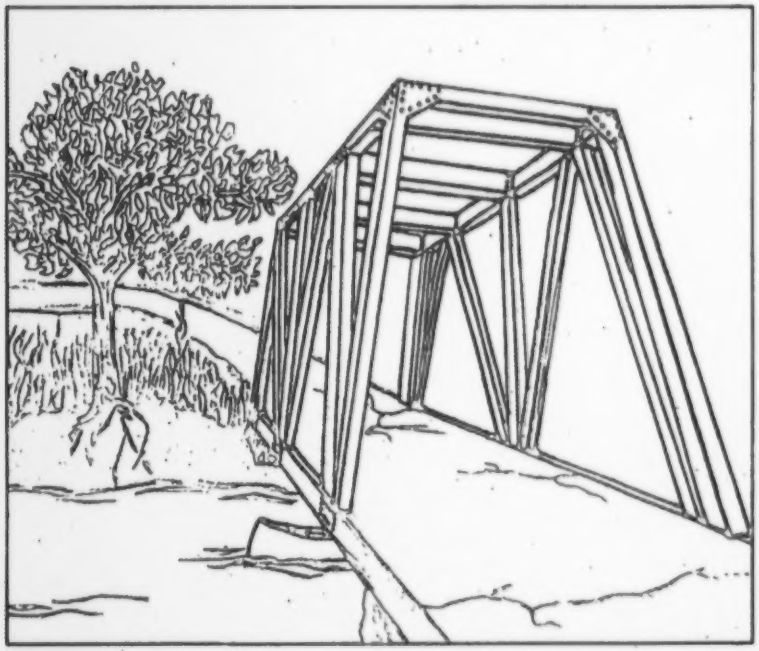
How does this work? Because an attitude permits to allow it to work. Attitudes define success.

Furthermore, Kolstoe lists seven virtues of consultation.

* Motive
* Spirit
* Detachment
* Modesty
* Eagerness
* Patience
* Service

Each consulting team could discuss these virtues, developing a common ground. Of course, be cognizant of the reverse features which often eat away, and eventually destroy any attitude to support group consultation.

* Discord
* Stubbornness
* Pride of Authorship
* Discounting
* Advocacy
* Criticism
* Dominating



I hope this booklet has been helpful in your development process. Please feel free to contact me with questions or ideas to share.

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We need to remember that what we do to an ecosystem, we do to ourselves.

—William R. Catton Jr.

"The bioregional concept has three main goals. One is to restore and maintain local natural systems. The next is to find sustainable ways to satisfy basic human needs—food, shelter, energy, water, culture. The third is to support the work of reinhabitation, of people becoming native to the places where they live."

—Peter Berg